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A SKETCH OF THE LIFE OF
DR. ROBERT BRIDGES
BY
W. S. W. RUSCHENBERGER, M.D.

(Read before the American Philosophical Society, February 15, 1884.)



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A SKETCH.

A man whose honest conduct and toil through a long life contribute, in any marked degree, towards the comfort, or enlightenment of his fellows, or the good name of the community in which he lived, earns a claim to kindly remembrance after he has left the field of his labor forever. It is good for the living to know something of his ways and services, though he may not have won a foremost place among the leaders of science or of letters. Even an imperfect sketch of the life of a man who has striven to increase, or to diffuse knowledge is more or less valuable, because it may incite others to emulate his example, and toil patiently among followers till qualified to fill a chief's place. If the reputation of a workman is in proportion to the quality and quantity of his work, then a fair relation of what Dr. Bridges has done will suffice to secure, without aid of rhetoric, the degree of encomium which his life deserves in this connection. A kind and generous disposition enhanced the merit of his work. He did much that brought no pay beyond the satisfaction which comes from doing to help others, and to contribute to the common progress. His life was characterized by uniform, unremitting labor.

The details of this sketch may be somewhat tiresome, but as they contain the gist, all the testimony in the case, they may be patiently heard at least, if not excused.

The ancestry of Dr. Robert Bridges is traced to Edward Bridges who, in 1648, was a lieutenant of the English Army. Edward, his eldest son, who was an architect, married in 1692. He left two sons. The elder, named Edward, married Catherine Bullen. He was a merchant in Cork. He had six sons and two daughters. Edward, the eldest of the sons, who also was a merchant in the city of Cork, married a second wife in Rotterdam, Cornelia, the second daughter of Thomas Culpeper, of Kent county, England. By her he had four children.

Edward, their third son, settled in Philadelphia, and in 1739, was established at a corner of Front and Walnut streets, in the dry goods trade. His place of business was commonly called "the Scales."

He left three sons: Edward John, who was born in Rotterdam, in 1736, and died in Jamaica, Surgeon of the *Africa*, a sixty-four gun ship; Culpeper, who died a midshipman on board of the *Northumberland*, at the siege of Louisburg, Cape Breton, 1758, and Robert, who was born in Philadelphia, November 18, 1739, and married in 1769, Jemima Sheppard, of Bensalem township, Bucks county, Pa. He had five sons, Barnsley, Robert (who probably died young), Culpeper, Robert and Edward; and five daughters, Cornelia, Mary, Sarah, Harriet and Emily.

Robert Bridges was a sailmaker. His residence was at (old number) 259 South Front street, and his sail-loft was on the wharf, Delaware avenue, north of Lombard street. James Forten, an almost "colorless colored man," was his foreman, and, in 1800, when Robert Bridges died, succeeded him in business.

Culpeper Bridges, the third son of Robert, the sailmaker, was born in Philadelphia, December 21, 1776, and died December 29, 1823. He was trained to be a merchant by John Leamy, whose "counting-house" was at the south-east corner of Walnut and Third streets. He married, February 21, 1804, Sarah, the fifth daughter and eleventh child of William Clifton, of Southwark, a blacksmith and machinist, and had two sons, William Clifton, and Robert, the subject of this sketch, who was born in Philadelphia, March 5, 1806.

We are what our mothers make us, and therefore it seems proper to state that the iron master, William Clifton was born, probably in Philadelphia, March 4, 1729, and died February 24, 1802. He married, September 2, 1763, Catherine Hallowell, by whom he had twelve children in the course of less than nineteen years. She died July 16, 1786. They were all members of the Society of Friends. One of the sons, William, who died November 25, 1799, was a poet as well as blacksmith. It

was said that he was "read out of meeting," expelled from the society, for the reason that he indulged in the frivolity of writing verses. If no other cause of expulsion existed, it is demonstrable that Friends of the present time are not so austere as they were then. But there is proof that other reasons probably influenced the decision. The preface of a volume of "Poems, chiefly occasional, by the late Mr. Clifton," printed for J. W. Fenno, in 1800, claims that he was "an expert swordsman a scientific and admirable musician, an accomplished painter and a graceful dancer," clearly showing that his acquirements were of a kind not likely to be commended in the community of Friends.

William Clifton, blacksmith, resided, 1785, in Water street between Almond and Catharine streets,* and in 1797, at No. 74 Swanson street.† About this date he seems to have transferred his business to his sons, William and John, for the City Directories of 1798, and subsequent years, give his residence at No. 76 Swanson street, and style him "gentleman," a term used in those days to designate a man of income sufficient to live at ease without work or a vocation.

This outline of lineage, which is purely English, implies that the ancestors of Dr. Bridges, were vigorous, enterprising, intelligent, industrious and respectable.

Both sons were liberally educated, both were pupils in the University Grammar School. William Clifton graduated from the department of arts of the University of Pennsylvania in 1821. Robert was for a short time one of the sophomores of the University—there was no freshman class at that period—and then, for no assigned reason, entered Dickinson College, Carlisle, Pa., from which he graduated 1824. In July of the same year he was elected a member of the Societas Philosophiæ Consociata of the College.

Immediately after his return to Philadelphia he became a pupil of Dr. Thomas T. Hewson, and remained under the

*The Philadelphia Directory, by Francis White, made up to September 1, 1785. It was the first work of the kind published in the city. Up to that time numbers had not been attached to the houses.

† Philadelphia Directory, by Cornelius William, Stafford, 1798, 1802.

instruction of that eminent medical teacher and surgeon nearly four years. He had associated with him, in teaching his large class of students, several assistants. His office was a two-storied house, on the north side of Library street near to Fourth street. In it were a students' reception-room, a laboratory and a lecture-room, and in the rear of the house, a dissecting-room.

In Dr. Hewson's private medical school Dr. Franklin Bache taught chemistry. He appointed young Bridges his assistant very soon after he began his medical studies. In this capacity he served Dr. Bache through many years, in the courses of chemical lectures delivered by him in the Franklin Institute, in the Philadelphia College of Pharmacy, and at the Jefferson Medical College. This practical training made him an expert chemist and an admirable teacher of chemistry.

His close attention habitually given to whatever he might be doing, qualified him in a high degree to assist the lecturer on chemistry. In May, 1827, upon pouring water into an iron mercury flask, which had been used for obtaining oxygen from nitre, for the purpose of washing it, he noticed a lively effervescence. He proceeded at once to investigate the nature of the gaseous matter, and found it to consist of oxygen of a purity of ninety-five per cent, as he ascertained by Dr. Hare's accurate sliding-rod endiometer. He observed the same phenomenon, November 27, at the Franklin Institute, and found in this instance that the oxygen contained only one per cent of impurity. He suggested that this residuum, which Dr. Hare conjectured to be peroxide of potassium, would furnish pure oxygen to the experimenter without trouble. He was anticipated in this discovery. Mr. Richard Philips, of London, had made the same observation and given the same rationale of the phenomenon, an account of which he published in the *Annals of Philosophy*, for April, 1827. Nevertheless, Dr. Franklin Bache, published in the *North American Medical and Surgical Journal*, for January, 1828, a note of the observation of "Mr. Robert Bridges, student of medicine," on the "Residuum of Nitre after exposure to red heat."

The circumstance indicates his character as a student and at the same time Dr. Bache's kind appreciation of his worth.

Dr. Bridges graduated from the medical department of the University of Pennsylvania, March, 1828. "Neuralgia" was the subject of his thesis.

He immediately opened an office at the south-east corner of Vine and Thirteenth streets, where he remained till 1837. He did not obtain a lucrative practice. His mother died, February 19, 1839, in the fifty-eighth year of her age, a loss generally among the saddest in man's experience.

A carefully prepared tabular record of 2099 cases of vaccination under his observation, between April 1, 1830, and May, 1840, indicates that he was a vaccine physician of the south-western district of the city during ten years. An ordinance of January 2, 1830, divided the city into four districts, designated as the north-eastern, north-western, south-eastern and south-western districts, and directed the Mayor to appoint a vaccine physician to each on the first Monday of January every year.*

The Board of Health appointed Dr. Bridges, July 17, 1832, the cholera year, one of the attending physicians in the district which included the Eastern Penitentiary, then at the north-west corner of Broad and Arch streets. The work was arduous. Entire nights were passed in the prison ministering to cholera patients. The remuneration for this perilous service was very small.

Dr. Bridges was a constituent member of the Friday Evening Medical Club, which was formed in 1835 or '36, and ceased to exist about 1872. The meetings were held, in turn, at the houses of the members. The entertainment was limited to tea, coffee and biscuits. The object of the club was to promote social intercourse among members of the medical profession in the city.

He was elected a member of the Academy of Natural Sciences of Philadelphia, January 1835; of the Franklin Institute, Jan-

* Vaccine physicians were appointed in the Northern Liberties under an ordinance of May 15, 1820, and in Kensington, under an ordinance of December 4, 1822.

uary, 1836; a resident member of the Philadelphia College of Pharmacy, December, 1838; a fellow of the College of Physicians of Philadelphia, July, 1842; and he was chosen a member of the American Philosophical Society, January 19th, 1844.

He was a councillor of the Society from January, 1855; chairman of its publication committee six years, from 1860, and served on many special committees.

His first work in the Academy of Natural Sciences was the preparation, in conjunction with Dr. Paul B. Goddard, of an Index of the genera of the Herbarium, which was presented August, 1835. He served on the Botanical Committee twenty-one years, from January, 1836. In May, 1843, he presented a new Index of the Academy's Herbarium, and an Index of Menke's Herbarium, works which were long the main guides to the Academy's botanical collections.

He was librarian from June, 1836, till May, 1839, when he resigned. The thanks of the Society were presented to him for "his able and efficient discharge" of the duties of the office.

He served as Recording Secretary five months in 1839 and '40; and as Corresponding Secretary from May, 1840, till December, 1841. He was an Auditor six years, from December, 1843, one of the Vice-Presidents more than fourteen years, from September, 1850, and was elected President, December, 1864. He declined re-election December, 1865.

He served twenty-three years on the Publication Committee, declined re-election in 1872; twenty-nine years on the Library Committee, from December, 1842; seven years on the Committee on Proceedings; five years on the Committee on Finance; seventeen years on the Committee on Entomology and Crustacea. He labeled and arranged anew the collection of crustacea according to the nomenclature and classification accepted at the time as the best. He was a member of the Committee on Herpetology and Ichthyology nine years, from January, 1857; on Physics ten years, from January, 1866; on Chemistry five years, from December, 1870, and a member of the Council more than five years, from December, 1869.

When the Academy's building was extended in 1846, and the extended building was raised and improved in 1855, he served on the building committees, and aided in obtaining subscriptions for the work on both occasions.

Again, December, 1865, Dr. Bridges, was appointed a member of a committee to solicit subscriptions to erect a fire-proof building for the use of the Academy: and, January 8, 1867, he was elected one of the Board of Trustees of the Building Fund, and by it a member of the Building Committee, January 11, 1867, on which he served faithfully until the Society was established in its new quarters, January, 1876.

The official positions to which he was annually elected, his appointment to several standing and many special committees, imply that he had the respect and unreserved confidence of his fellow-members. Among them none was more constant, none who worked more industriously. He promptly discharged all duties imposed upon him and, during forty years, was seldom absent from the meetings of the society. In addition to his valuable services, he contributed to its funds, to its library and its museum as liberally as his modest income justly allowed.

As a token of their estimate of his worth, a number of members presented to the Academy a portrait of him which, painted by B. Uhle, an eminently skillful young artist of this city, will soon be hung in place among the portraits of the presidents of the society.

His remarks "On infusoria found in stagnant water" are reported in the Proceedings of the Academy for May, 1842: on "The influence of the contact of copper in preserving human bones," and on "Indian reliques," May, 1843: on "Estimates of the length of the year," and on the "Formation of lithoid carbonate of iron," in the volume for 1848.

At the Franklin Institute Dr. Franklin Bache taught chemistry, as lecturer and professor,* from September, 1826, till 1831. During the whole period, five years, Dr. Bridges was his assistant. After that time he did not participate in the

* Dr. Bache was appointed lecturer on chemistry, September, 1826, and professor, March, 1828.

proceedings of the Society though he was occasionally present at its meetings.

As already stated, he was an active and prominent member of the Academy of Natural Sciences, but all his time was not given to it. He labored most earnestly in another institution, the Philadelphia College of Pharmacy, with which his career was so closely associated, that, to understand it clearly, a statement of the circumstances which attended the origin and progress of the College seems necessary.

A National Convention of Physicians assembled at Washington, D. C., January 1, 1820, for the purpose of devising a code of formulas, and establishing it as the sole standard for medicinal preparations. The object was to have them made exactly alike in composition and strength by all physicians and apothecaries throughout the land.

At that period the London, the Edinburgh, the Dublin and other pharmacopœias were recognized authorities in the United States. Their directions were not alike. Therefore, as every apothecary followed the standard he considered best, officinal preparations of the same name, found in the shops, differed from each other just as the standards differed. The composition and potency of the physician's prescription were contingent, in an important degree sometimes, upon the pharmacopœia followed by the apothecary who dispensed it.

It is obvious that the interest of both patients and physicians required that these several authorities should be superseded by a single standard. To attain this end, to establish a permanent authority in the premises, and obtain for it general confidence and respect everywhere in the United States, it was determined that a national convention composed of delegates from the medical colleges and incorporated medical societies of the country should be convened every tenth year; that each delegation should be invited to submit to the convention a report of suggested amendments to the work; that from the reports presented the convention, through the agency of a select committee appointed for the purpose, should compile and publish a revised edition of the pharmacopœia every ten years. An

advantage of this plan is, that each revision represents at the date of publication the common opinion of the profession, and the work is kept in accord with the progress of pharmacy and of medical knowledge.

The result of the labors of the convention of January, 1820, was the publication, at Boston, Mass., December 15, 1820, of the first Pharmacopœia of the United States of America, and since, of decennial revisions of it, the sixth of which is now in use.

The achievement is notable. The pharmacopœia of every nation of Europe is a public work directed and paid for by the government. Without the influence of a statute of any kind to sanction or enjoin its use, this, through the force of public opinion created in its favor, has been established as the law, the standard in the premises, which is generally respected.

The work is purely charitable. It has been done for three score years at least, at the cost of the labor, time and money of many medical men without any compensation to the workmen for their work; and the results of it have been freely given for the common good.

Dr. Bridges was among the most skillful of those who labored to perfect the pharmacopœia. The Philadelphia College of Pharmacy appointed him, March, 1847, one of a committee to revise the issue of 1840, and prepare the report on it to be given to the National Convention of 1850, the first in which pharmacists were represented. He assisted on a committee of the College of Physicians, appointed February, 1868, to report on the fourth decennial revision; was one of the delegates from the college to the meeting of the National Convention of 1870, and was a member of the Committee on Publication of the fifth decennial revision. In July, 1877, the College of Physicians appointed him one of a committee to revise the Pharmacopœia of 1870, and prepare a report on it for the National Convention of 1880.

The labor of those committees of revision is considerable. Inspection of materials, pharmaceutical experiments and therapeutic observation are often necessary to determine the value

of a formula. Each committee held weekly sessions of about two hours, and, on an average, required two years to complete its work. All the institutions which participate in the preparation of a revised edition of the Pharmacopœia, give it like attention, so that it is not easy to conjecture the aggregate of labor bestowed upon it. So much care merely signifies that, in the estimation of the profession, accuracy in all the details of the work is very important.

About the time when the first National Convention met, the drug and apothecary business was regarded as a trade rather than as a profession based on scientific principles, as it is now. It was known that deteriorated drugs were sold, and that valuable preparations in daily use were adulterated or made of materials of inferior quality. Such abuses were charitably ascribed to ignorance of pharmacy which was supposed to prevail among druggists and apothecaries generally.

To remedy this lamentable condition of the apothecary's vocation, some three score of intelligent, philanthropic men including a large proportion of members of the Society of Friends, associated in this city and founded, February 23, 1821, the Philadelphia College of Pharmacy, a society which was incorporated, March 30, 1822, with all legal authority necessary to establish and support a school of pharmacy.

The University of Pennsylvania had then recently provided for teaching pharmacy in connection with materia medica, and conferring the degree of Master of Pharmacy, which was conferred the first time, in the spring of 1821 on sixteen graduates. This action of the University, it was said, greatly influenced, if it did not determine the formation of the Society known as the Philadelphia College of Pharmacy.

It consists of active or resident, honorary and foreign members. The conduct of its ordinary affairs is confided to sixteen trustees, one-half of whom are elected semi-annually by the college. The stated meetings of the board of trustees are monthly and of the college, quarterly.

The first courses of lectures, which were limited to materia medica and chemistry, were given in the winter of 1821-22,

but the degree of "graduate of pharmacy" was not conferred till the spring of 1826, when there were three graduates.

The lectures were delivered in a building on the west side of seventh, between Market and Chestnut streets, the site of which is now occupied by the Gas Office of the city.

In 1832 the society erected for its use a building on the south side of Zane, now Filbert street, west of Seventh, and occupied it until the college was established in its present well adapted quarters, No. 145 North Tenth street, September, 1868.

Under the authority of the Society, the *American Journal of Pharmacy*, which is devoted to the advancement of pharmaceutical knowledge, and the advocacy of thorough education of pharmacists, was established in 1825. It was issued quarterly, till 1853, then bi-monthly till 1871, since that date, monthly, and continues to be a prosperous periodical.

Dr. Bridges was assistant editor of this journal about six years, from 1839 till 1845, and contributed several original papers to it.

The college grew very slowly. But the strict probity observed in its management and the great care taken to select only the most competent and conscientious teachers, have enabled it to surmount all impediments in the way of its progress.

Now, graded courses of instruction are given on materia medica, botany, the theory and practice of pharmacy, chemistry (practical and analytical), and pharmaceutical manipulation, by a faculty consisting of four professors and three assistants. The teaching is very thorough. Since the establishment of the school, 7109 students have matriculated, upon 2049 of whom, 28.82 per cent., the degree of graduate in pharmacy has been conferred.*

Dr. Bridges entered the college, May, 1831, as private assistant of the professor of chemistry, Dr. Franklin Bache, and was elected an active member of the society December 18, 1838, and, March 25, 1839, a member of the Board of Trus-

*Sixty-third Annual Announcement of the Philadelphia College of Pharmacy, 1883.

tees, and also of the Publication Committee, to which he was annually elected, till 1861, twenty-one years, when he declined re-election. He was elected chairman of the Board of Trustees, October 9, 1860, and, being annually re-elected, held the position till the close of his life.

When Dr. Bache gave up the chair of chemistry to take the professorship of the same department in the Jefferson Medical College, Dr. Bridges was a candidate for the vacant place, but Dr. Wm. R. Fisher was elected, May 31, 1841, by a majority of two votes. He resigned, the following April, and Dr. Bridges was unanimously elected Professor of General and Pharmaceutical Chemistry, May 16, 1842. Still he continued to be the private assistant of Dr. Bache, till his death, in 1864, severed their continuous laboratory association of forty years. Dr. Bridges, also aided Dr. George B. Wood in his work while he held the professorship of materia medica in the University of Pennsylvania, from 1835 till 1850.

Besides the routine work of the professorship, Dr. Bridges did his full share on standing and special committees, delivered many introductory and other addresses, and represented the College among its delegates to the American Pharmaceutical Association and other bodies.

It is related substantially that, prior to 1851, the average number of graduates annually, from 1826, was less than seven, and that the public commencements were biennial. That year the matriculants numbered 82, and the graduates 19. The class determined that the commencement should be attended with more demonstration than had been made on previous occasions. The ceremonies had been conducted in an apartment of the college, not capable of seating comfortably a hundred persons. Other arrangements were proposed, but opposition to them from an unexpected quarter was strong. The president and some of the trustees of the college belonged to the Society of Friends. They are notably conservative of their customary ways and averse to ostentation. The commencement had consisted in the delivery of diplomas to the graduates by the president according to a prescribed form, and a suitable

address by a professor in the presence of invited friends. The ceremony was sedate, without manifestation of that sense of triumph which successful young candidates are supposed to feel on such an occasion. As many Friends regard the fine arts, painting and sculpture, as frivolities, things not only unnecessary to happiness, but in their influence detrimental in some indefinite way to a proper observance of purely moral life, and music, by its charms, as likely to allure to evil ways, to divert the mind from industry and the pursuit of substantial things, their aversion to the proposed display was entirely in harmony with their ancient opinions in this connection. Rather than assent to the proposed arrangements some of them resigned, or purposely were absent.

Nevertheless, the commencement was held, April 4, 1851, in Sansom Street Hall, in the presence of a large audience, attended by a band of good music. Those most concerned were highly pleased. The vacancy caused by the resignation of the president was well filled on the occasion by Dr. Bridges, who conferred the degree of "graduate of pharmacy" on those entitled to the honor.*

The painstaking and kindly ways of Dr. Bridges in teaching, won for him affectionate and enduring respect from those whom he taught. At the commencement, March, 1867, a portrait of him, in oil, was presented to the college by the Phi Zeta Society, and the graduating class, at the commencement, March, 1877, presented to him a stem-winding gold watch.

The additional labor imposed by adopting the method of teaching in graded courses, induced Dr. Bridges, in June, 1878, to procure an assistant. And in January, 1879, at a meeting of the Board of Trustees, he stated informally that his impaired health constrained him to announce that he would relinquish the chair of chemistry at the close of the course.

On hearing of his intended resignation, the graduating class of one hundred and fourteen members, representing eighteen States, held a meeting and adopted a preamble and resolutions,

*See, The Annual Address before the Alumni Association of the Philadelphia College of Pharmacy. By James Stratton, Ph. G., 1879.

expressing regret, sympathy, and, for themselves as well as their predecessors, "profound respect for Dr. Bridges as a chemist, and their most grateful esteem for him as their friend and instructor," and earnestly invoking the divine blessing upon his remaining years.

He tendered his resignation in a letter dated March 4, 1879. At a meeting of the Board of Trustees, March 14, a preamble and resolutions were unanimously adopted, stating in substance that he had devoted his time and abilities to a conscientious discharge of the trust assigned him for a long period, during which the professors received a scanty remuneration, that "to his sound judgment and patient labor" the success of the college is much indebted; that the good work he has accomplished has its record in those who have been his pupils in the college—about five thousand—and that he has the sincere thanks and sympathy of the Board.

At the celebration of its twenty-fifth anniversary, March 11, 1879, the Phi Zeta Society, which is composed of alumni of the college, created a scholarship and named it the Robert Bridges scholarship, as a token of its high estimation of his character and official services.

The Board of Trustees after due deliberation, "in view of his faithful and efficient labors," conferred upon him, May 6, 1879, the title of Emeritus Professor of Chemistry, with an annual salary of one thousand dollars, to be paid in equal installments quarterly, in advance, during his life, from the first day of July ensuing.

By this spontaneous act of benevolence, the Trustees have shown themselves to be worthy of honor as distinguished as that which they conferred on Dr. Bridges; and they have set an example eminently proper to be followed by all incorporated educational institutions. There are no skilled laborers whose work is more important to the community, and yet none so inadequately paid, as professors and teachers in our colleges and schools of every name. During the vigorous period of their lives their remuneration affords them and their families a very modest living; but it is too scanty to permit investment of a

part of it annually to create resources sufficient for invalid days and old age, even after continuous toil during thirty or forty years. Possibly better than increased remuneration for these beneficent servants of the people would be a college fund from which those professors who have become incapable of performing their official duties, by age or otherwise, might receive a moderate pension or retired pay; at any rate the emeritus professor should have a salary.

When the professorship of chemistry in the Jefferson Medical College was vacated, in 1864, by the death of the incumbent, Dr. Bache, Dr. Bridges was one of seven candidates for the vacancy. It was filled by the election of Dr. B. Howard Rand.

While discharging, efficiently and most acceptably, his duties at the Academy of Natural Sciences, and in the Philadelphia College of Pharmacy, he found time to teach medical chemistry in the Philadelphia Association for Medical Instruction, to attend the meetings of the American Philosophical Society, and of the College of Physicians of Philadelphia, and render to it valuable service. He was one of its delegates to the National Medical Convention held in Philadelphia, May, 1847, and subsequently was one of the representatives of the college in the American Medical Association.

He analyzed the collection of one hundred and eighty-five urinary-calculi in the Mütter Museum, which belongs to the college, and made a catalogue of them.

In January, 1867, he was elected a member of the library committee and appointed librarian. The duties of the office occupied him daily from 11 o'clock, A.M., till 3 o'clock, P.M. In January, 1879, he declined re-election to the library committee, and failing health induced him to resign the office of librarian, January, 1881, having filled it during fourteen years. Then, on motion of Dr. DaCosta, it was unanimously resolved "that the thanks of the college be tendered to Dr. Bridges, for his long, faithful and intelligent services to the college, and that they deeply regret that failing health will deprive the college of his labors; that as a slight token of ap-

preciation of his long services, his annual dues be hereafter remitted." And at its stated meeting, January 26, 1881, the library committee presented to Dr. Bridges "the expression of their sincere regret that the care of his health obliges him to retire from the office of librarian, which he has held for so many years, and in which they have learned to appreciate his industry, fidelity and courtesy. They sincerely hope that he may find in repose and recreation the means of improving his health, and the opportunity of observing the growth of the library with whose early history he has been identified."

Cultivation and teaching of the medical sciences have ever been among the pursuits which contributed to the good name of Philadelphia. The excellence of the medical colleges in the city is generally acknowledged. This high character is ascribable, in some degree at least, to aspiring young physicians who joined together in little bands to lecture and teach the several branches of medicine while the incorporated colleges were closed. In past times this recess continued during six or seven months of the year. Those engaged in the summer schools, as they were called, soon became trained teachers, well qualified to fill professorships. Several of the most distinguished professors in our medical colleges were partly indebted for their appointment to the preliminary training, and reputation acquired in a summer school.*

In the spring of 1842, the Philadelphia Association for Medical Instruction was formed. The constituent members or founders of it were Dr. John F. Meigs, who taught obstetrics till 1845, and afterwards lectured on the diseases of children; Dr. Joshua M. Wallace, who taught surgery; Dr. Robert Bridges, chemistry; Dr. Francis Gurney Smith, Jr., physiology; and Joshua M. Allen, anatomy. Dr. Bridges, was the only constituent member of the Association who remained in it until it was dissolved at the close of 1860, a period of eighteen years.

*The History of the Philadelphia School of Anatomy and its relations to medical teaching. A lecture delivered March 1, 1875, at its dissolution. By William W. Keen, M.D. (published by J. B. Lippincott & Co.).

Many of the associations for medical teaching in Philadelphia are sketched or referred to in this very interesting paper.

Several retired to accept professorships in medical colleges, and their places were supplied by new appointments, so that during the career of the Association the names of many distinguished physicians are recorded on its list of members.*

Dr. Bridges was elected professor of chemistry in the Franklin Medical College in 1846, and filled the office till the institution was dissolved in 1848.

His contributions to medical and scientific literature are valuable, but not very numerous.

His papers in the *American Journal of Pharmacy* are entitled, "Chemical symbols," and "Pyroacetic spirit and its derivative compounds," in 1839; "The manufacture of sulphuric acid," and the "Adulteration of lac sulphuris," in 1840; "Notice of Professor Kane's researches on ammoniacal compounds," "Poisoning by long continued use of acetate of lead," in 1841; "Observations on two species of aristolochia which afford serpentaria," "Observations on the action of ether on galls," "Report on Procter's hydrated peroxide of iron," in 1843; "Experiments on the absorbing power of anthracite," "Precipitated carbonate of lime," "Solution of iodide of iron," "Solidification of carbonic acid," in 1844; "Pil hydrargyri," in 1846, and "Southern prickly-ash bark," in 1865.

In July, 1845, Dr. Bridges "edited with additions" the American reprint of *Elementary Chemistry, Theoretical and Practical*, by George Fownes, and subsequently several editions of this popular volume. The latest American, from the twelfth English edition of the work, was issued May, 1878.

He also edited, 1852, the American reprint of Graham's *Elements of Chemistry*.

From 1854 till 1877, inclusive, he contributed very many bibliographical notices and reviews, chiefly of works on chemistry, to the *American Journal of the Medical Sciences*.

* David H. Tucker, William V. Keating, J. H. B. McClellan, Ellerslie Wallace Addinell Hewson, John H. Brinton, S. Weir Mitchell, Alfred Stillé, Morton Stillé, J. M. DaCosta, Francis West, James Darrach, and Edward Hartshorne, were teachers in this Association. Including the constituent members, a corps of better qualified instructors than those associated in this summer school could not be easily found anywhere.

He assisted Dr. George B. Wood in the preparation of the twelfth, 1865, the thirteenth, 1870, and the fourteenth, 1877, editions of the United States Dispensary, a leading work on materia medica and pharmacy of such acknowledged excellence and accuracy as to be generally accepted as authority in the premises.

During the last few years of his life, Dr. Bridges endured most patiently the constant molestations and frequent pain, which attend chronic cystitis. His repose at night, broken into a series of hourly naps, did not bring to him for the next day the refreshing effect of normal sleep; and so his physical vigor was continuously abated, and his mental pursuits greatly disturbed. But in spite of worry from this condition of his health, he was serenely cheerful and manifested his usual interest in scientific topics.

Within a few days of the completion of the seventy-sixth year of his age, he died, February 20, 1882, in the house he had occupied with his brother and family twenty-eight years.

He was never married. His generous and sympathetic kindness, self-sacrificing spirit and habitual amiability won the almost filial love and respect of his brother's many children. Their devotion to him is conclusive evidence of the excellence of his domestic qualities and the tenderness of his nature.

Frugal in his living, punctual and loyal to all duties, accurate, learned, unremittingly industrious, rigidly self-respecting and pure in conduct in every sense, he worked faithfully throughout his long life, but did not reap compensation commensurate with his toil. He lacked of that self-asserting, aggressive spirit which leads many a good man to fortune under circumstances in which one of far greater intrinsic worth often fails only because he is too shy, too modest to assert his claims to consideration. He was always content to leave to others the appraisal of his worth.

Without being ready in debate or at all eloquent in speech, he was an admirable and efficient teacher, as thousands of his pupils can testify. They will teach his lessons and thus long

continue and expand the beneficent influence of his instruction and example.

Though he was baptized in the Protestant Episcopal Church, and was occasionally present at its services, he seemed to hold views in harmony with the tenets of the Society of Friends, of which his mother and her ancestors were members. As long as the golden rule squared and regulated the daily practice of his life, the Sunday observance of church ceremonies and listening to continuously iterated inculcations were insignificant, and, to our philosopher, seemingly without profit of any sort. The purpose of his life was to learn truths demonstrable to the senses. Of the kind of palpable truth, which is patent to the expert naturalist who perceives that the Creator is everywhere present in all His works, the church rector does not often speak; and if he did, could teach him nothing. To one earnestly engaged in the study of God's visible works, the attractions of pulpit teachings are comparatively feeble. To him doctrines and dogmas of every kind, though he may complacently listen to them, are of very small importance, because he knows that all doctrines and theories are unstable, and that the ascertained facts of the creation are permanent forever. He lived and believed as a christian, but without adhesion to any sect.

Dr. Bridges was notably reticent about himself among his most intimate friends. He left no letters or papers bearing testimony to his merits. A friend who had been intimate with him during a third of a century, says, in a letter, September 10, 1881: "Few men in this world—and I have met many who are good and generous—have ever, in my judgment, with such self-sacrificing generosity, bestowed as heartily their sympathy and their best efforts to gladden the lives of those around them, as our friend Bridges has always done. And the quiet, earnest and unflagging way in which he has bestowed the best energies and all the small rewards of his life among his friends is beautiful to behold. * * * *

"I am quite surprised to hear that he is able and enjoys so much exercise as to go twice a day to the cool hall of the

Academy to read in the library. I am very glad of it, and, especially, as he will there have the benefit of the refreshing atmosphere of that large room; and will enjoy the very best thing for him, not infrequent meeting with old acquaintances, and always find most congenial topics of conversation. I never shall forget the force with which, before I was well acquainted with Dr. Bridges, an assertion of Leidy one day struck me. Leidy said, he thought he had as much broad and general knowledge and accurate learning as could be found among us, and that he was a man of most sound and solid judgment. This I have found to grow upon my convictions of his mind and acquirements for the period of thirty-three years since Leidy spoke of him so sincerely and soundly."

His knowledge of natural history in general was extensive, accurate and always at command. He was a well-informed botanist, thoroughly versed in materia medica and chemistry, and a skillful practitioner of medicine. Naturally modest, almost shy, his manner to strangers was somewhat reserved, but cordial with his friends, all of whom regarded him with affectionate respect, because they recognized his perfect integrity, sincerity, extensive learning and good sense.

In the annual oration before the Alumni Association of the Philadelphia College of Pharmacy, March 13th, 1882, Mr. Frederick B. Power, spoke of him, as follows:

"I cannot refrain from adding my tribute to the memory of him whose loss we have so recently been called upon to mourn—the late Professor Dr. Robert Bridges. His faithful teachings during an unparalleled period of service of nearly forty years will long be held in grateful remembrance by those who were permitted to listen to his instructions, while his generous and noble nature, so beautiful in its simplicity, so approachable and free from ostentation, had endowed him with attributes well worthy of emulation, and endeared him to his pupils by ties of affection which will be ever fondly cherished."

In his valedictory address to the graduates of the college, March 15th, 1882, Professor Samuel P. Sadtler said:

"The Philadelphia College of Pharmacy has just lost, in the

death of Professor Robert Bridges, her Emeritus Professor of Chemistry, one, who, while he added much to her present substantial reputation, will be remembered and revered by those who knew him, chiefly because of his eminently lovable and unselfish character, his devotion to duty, and his faithful labors for the institution with which he was so long and so honorably connected.

"If we, younger men, and especially you, young gentlemen, just about starting upon your life's career, will emulate these qualities of character, we may expect some day, when the curtain drops upon the drama of our life, to have it said of each of us, as it is now said of him, 'his was a noble life.'"

Addition to these just eulogies seems redundant. But truth suggests that the most tender and considerate of all the testimony of his worth should be recorded. The Philadelphia College of Pharmacy did not limit its manifestation of respect to memorial resolutions or laying flowers on his bier. Its sense of sympathy and regret was substantially expressed in a spontaneous act of pure generosity. It asked, as a privilege inuring to long and intimate fellowship, to be permitted to defray the expenses of his funeral and to pay to his heirs an extra quarter's salary of the emeritus professor. Such homage is rarely offered; and when offered is seldom declined, even by opulent people.



